

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. (US 6,278,178 B1) hereafter refer as Kwon in view of Slager (US 6,399,004 B1).

Regarding claim 1, Kwon disclose an electrically insulating body (figure 18 element 11) [Colum 3 lines 54-55] provided with a conductor pattern which insulating body (figure 18 element 11) is provided with a first and a second side (Figure 18 elements 12b and 13a) between which an enclosed angle is present of substantially less than 180 degrees (See figure 18.i.e the angle between element 13a and 12b); wherein the conductor pattern (Figure 18 Element 16) extends over and is recessed (Element 13) in the first and the second side and, wherein the conductor pattern (Element 16) comprises a number of strip-shaped conductors (See figure 17 and 18) provided each with at least one region of larger dimensions than the width of the strip-shaped conductors (figure 18

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Element 16), which regions are suitable for electrical contacting of electronic elements to be assembled together with the insulating body (element 11).

Kwon et al. does not expressly disclose a body acting as a carrier of the conductor pattern and as a carrier of the elements.

Slager disclose a body acting as a carrier (12) of the conductor pattern and as a carrier of the elements. (See figure 1, FIG. 1a shows a cross sectional view through a strip-type carrier 12 onto which a chip 10 is positioned. Through a number of bonding wires, two of which indicated by 14a and 14b are visible in the figure; the chip is connected to the conductor pattern which is present onto or into the carrier 12)

Kwon and Slager are analogous art they are from the same field of endeavor, encapsulating a chip on a carrier.

. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine carrier of the elements with conductor patterns in or on the carrier in order to bond an electronic components onto the carrier as taught by Slager.

Regarding claim 2, Kwon characterized in that a cavity or opening (figure 18 element 13b) is present in the body for mounting an electronic element.

Regarding claim 3, Kwon disclose characterized in that the cavity (figure 18 element 13b) has a bottom (Figure in claim 18, Element 12a) and a side (Figure 18, Element 13a) wall, the conductor pattern (Figure 18 element 12b) extending over the side wall and optionally over the bottom of the cavity (Figure 18 Element 13b), while a connection region for electrical contacting of the electronic element

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which connected to a plurality of leads) is present in the cavity (Figure 18 Element 13b). [Electrically conductive strips of a prescribed shape having a first portion 12b, are formed at a bottom of the substrate 11]

Regarding claim 4, Kwon discloses characterized in that the opening (Figure 18 Element 13b) extends from the first side (Figure 18 Element 12a) through to a third side (Figure 18 Element 12b) facing away from the first side (Figure 18 element 12a), such that a first component (Figure 18, element 15) can be placed at the first side (Figure 18 Element 12a) and a second component can be placed at the third side (Figure 18 element 12b), which components together with the interposed body define an electronic element). [Electrically conductive strips of a prescribed shape having a first portion 12b, are formed at a bottom of the substrate 11]

Regarding claim 5, Kwon disclose characterized in that at least a number of the strip-shaped conductors (Figure 18 element 12b, i.e. conductive strips of a prescribed shape having a first portion 12b) (see figure 18) is provided with respective regions at respective ends which regions act as connection regions and are located in a closed, preferably rectangular arrangement. (See figure 18)

Regarding claim 6, kwon disclose characterized in that at the body has a third side (Figure 18 element 12b) which faces away from the first side (Figure 18 Element 12a), and the conductor patter (Figure 18, i.e. conductive strips of a prescribed shape having a first portion 12b, are formed at a bottom of the substrate 11) extends from the first side (Figure 18 Element 12a) over the second side (Figure 18 Element 12b) onto the third side (Figure 18 element

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12b).

Regarding claim 7, kwon discloses characterized in that at least a number of the strip-shaped conductors (Figure 18 Element 12b) have respective strip-shaped ends [Electrically conductive strips of a prescribed shape having a first portion 12b, are formed at a bottom of the substrate 11], said ends being at least substantially oriented in parallel and present at the first side (Figure 18 Element 12a).

Regarding claim 8, kwon discloses characterized in that the strip-shaped conductors have a width of between 10 and 500 gm. [Column 1 paragraph 5 lines 38-49 i.e. The lead frame may be in the form of a long thin strip to which multiple semiconductor chips will be attached]

Regarding claim 9, kwon disclose an electronic device (Figure 18) provided with an electronic element (Figure 18 Element 15) and with an electrically insulating body (figure 18 element 11) with a conductor pattern (Figure 18 Element 16) as claimed in one of the above preceding claims.

Regarding claim 12, kwon disclose an apparatus for mobile communication provided with an electronic device as claimed in claim 9. (BLP semiconductor package shown in Figure 1, i.e. Blizzard provides an Interface)

Regarding claim 13, kwon disclose characterized in that at least a number of the strip-shaped conductors (figure 18 Element 16) is provided with respective regions at respective ends which regions act as connection regions and are located in a closed, preferably rectangular arrangement. (See figure 9, i.e. the

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substrate can be used for both wire or solder bump/ball connection to the bond pads of the integrated chip.)

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. (US 6,278,178 B1) (hereafter refer as Kwon) in view of Kitahara (5,440,452)

Regarding claim 10, Kwon disclose an electrically insulating body (figure 18 element 11) [Colum 3 lines 54-55] provided with a conductor pattern which insulating body (figure 18 element 11) is provided with a first and a second side (Figure 18 elements 12b and 13a) between which an enclosed angle is present of substantially less than 180 degrees (See figure 18.i.e the angle between element 13a and 12b); wherein the conductor pattern (Figure 18 Element 16) extends over and is recessed (Element 13) in the first and the second side and, wherein the conductor pattern (Element 16) comprises a number of strip-shaped conductors (See figure 17 and 18) provided each with at least one region of larger dimensions than the width of the strip-shaped conductors (Element 16), which regions arc suitable for electrical contacting of electronic elements to be assembled together with the insulating body (element 11), said body acting as a

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carrier of the conductor pattern and as a carrier of the elements (figures 18 and 19 element 11).

Kwon does not expressly disclose an optical lens, together defining a camera.

Kitahara an optical lens, together defining a camera. [Column 11 paragraph 7 lines 56-64].

Kwon and Kitahara are analogous art because they are from similar problem solving area surface mount components.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate an optical lens to the mounting surface as taught by Kitahara into surface mount components of Kwon so that date camera ensures the desired quality, thus this gives rise to a need to follow a cumbersome procedure for repairing or changing components.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIY GETACHEW whose telephone number is (571)272-6932. The examiner can normally be reached on Monday to Friday 8Am to 4:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DEAN REICHARD can be reached on (571)272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy C. Norris/
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A.G.
August 15, 2008